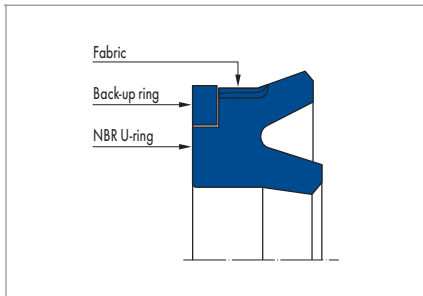


MERKEL U-RING SEAL SET 0217



PRODUCT DESCRIPTION

Two-piece Merkel seal set comprising an elastomer U-ring with an elastomer sealing edge, a fabric reinforcement on the contact area and an active back-up ring.

PRODUCT ADVANTAGES

Single-acting piston seal for use in hydraulics or pneumatics

- Low friction due to fabric reinforcement
- Large range of dimensions
- Activated back-up ring prevents extrusion

APPLICATION

- Pneumatic applications

MATERIAL

U-Ring

Material	Code
NBR U-ring	80 NBR B246
Cotton fabric	BI-NBR B4 B248

Back-up ring <300 mm

Material	Code
Polyacetal POM	POM PO202

Back-up ring >300 mm

Material	Code
Polyamide	PA 6.G200

Other materials like PTFE bronze back-up ring on enquiry.

OPERATING CONDITIONS

Pressure p Hydraulic	25 or 40* MPa
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* max. pressure depends on the profile.

Pressure p Pneumatic	5 MPa
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Running speed v	1,5 m/s
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Medium/ Temperature	80 NBR B246/BI-NBR B4 B248/PA 6.G200	80 NBR B246/BI-NBR B4 B248/POM PO202
Hydraulic oils HL, HLP	-30 °C ... +100 °C	-30 °C ... +100 °C
HFA fluids	+5 °C ... +60 °C	+5 °C ... +60 °C
HFB fluids	+5 °C ... +60 °C	+5 °C ... +60 °C
HFC fluids	-30 °C ... +60 °C	-30 °C ... +60 °C
HFD fluids	-	-
Water	+5 °C ... +100 °C	+5 °C ... +100 °C
HETG (rapeseed oil)	-30 °C ... +80 °C	-30 °C ... +80 °C
HEES (synthetic ester)	-30 °C ... +80 °C	-30 °C ... +80 °C
HEPG (glycol)	-30 °C ... +60 °C	-30 °C ... +60 °C
Mineral greases	-30 °C ... +100 °C	-30 °C ... +100 °C

DESIGN NOTES

Please observe our general design notes in → Technical Manual.

Surface quality

Peak-to-valley heights	R _a	R _{max}
Sliding surface	0,05 ... 0,3 µm	≤2,5 µm
Groove base	≤1,6 µm	≤6,3 µm
Groove flanks	≤3,0 µm	≤15,0 µm

Percentage contact area M_r >50% to max. 90% at cutting depth c = Rz/2 and reference line C_{ref} = 0%.

Admissible gap dimension

BR	16 MPa	26 MPa	32 MPa	40 MPa
2,5 ... 3,0	0,80 mm	0,70 mm	0,60 mm	0,40 mm
3,5 ... 4,0	1,20 mm	1,00 mm	1,00 mm	0,50 mm
5,0 ... 6,0	1,80 mm	1,40 mm	0,90 mm	0,70 mm
8,0	2,00 mm	1,60 mm	1,10 mm	0,90 mm

The largest gap dimension occurring on the non-pressurised side of the seal in operation is of vital importance for the function of the seal. → Technical Manual.

Tolerances

The admissible gap width, tolerances, guide play and deflection of the guide under load are to be taken into account when designing d₂. → Technical Manual.

Nominal Ø D	D	d
≤1 120 mm	H8	h10

FITTING & INSTALLATION

Careful fitting is a prerequisite for the correct function of the seal. → Technical Manual.